

IN THE SPECIFICATION:

On page 1 of the specification, before “**Technical Field**”, please insert the following:

“This application is a 371 of PCT/AU2004/001310, filed on September 24, 2004, which claims priority under 35 U.S.C. Section 119(a) to Australian Patent Application 2003905278 filed on September 26, 2003 which is herein incorporated by reference.”

Please amend the paragraph on page 1, lines 33-34 to read as follows:

Accordingly, ~~in a first aspect, the present invention relates to~~ herein disclosed ~~is~~ a method of increasing ploidy in cells of a woody perennial plant, the method comprising:”

Please delete the paragraphs beginning on page 2, line 5 through page 3, line 18 and replace them with the following:

“According to an aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting a bud of said plant substantially continuously over a period of at least 1 day with an effective amount of a composition comprising an agent capable of inhibiting spindle formation, wherein said contacting commences substantially coincidental with breaking dormancy of said plant tissue, wherein said bud comprises actively dividing cells and is apically or terminally dominant; and

exposing the treated bud to substantially constant illumination until growth from the treated tissue occurs.

According to an embodiment of the methods of the invention, the plant tissue may be at least one bud grafted onto a rootstock plant. The apical shoot and all buds of the rootstock plant may be removed, so as to allocate more of the plant resources to the grafted bud(s). The plant tissue may be a single grafted bud.

Thus, according to another aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting a bud of said plant substantially continuously over a period of at least 1 day with an effective amount of a composition comprising an agent capable of inhibiting spindle formation, wherein said contacting commences substantially coincidental with breaking dormancy of said plant tissue, wherein said bud is grafted onto a rootstock plant, comprises actively dividing cells and is apically or terminally dominant.

The plant tissue may be exposed to ultraviolet, or fluorescent light or to a mercury and/or sodium lamp substantially continuously subsequent to said contacting at least until growth from the treated tissue occurs.

Also herein disclosed is a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting plant tissue comprising dividing cells with an effective amount of a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine.

According to another aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting a bud of said plant substantially continuously over a period of at least 1 day with an effective amount of a composition comprising from about 0.5% w/v colchicine to about 3% w/v colchicine, wherein said bud comprises actively dividing cells and is apically or terminally dominant; and

exposing the treated bud to substantially constant illumination until growth from the treated tissue occurs.

According to another aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting a bud of said plant substantially continuously over a period of at least 1 day with an effective amount of a composition comprising from about 0.5% w/v colchicine to about 3% w/v colchicine, wherein said bud has been grafted onto a rootstock plant, comprises actively dividing cells and is apically or terminally dominant.

Also herein disclosed is a method of increasing ploidy in cells of a deciduous woody perennial plant, the method comprising:

contacting at least one bud of said plant, wherein said bud comprises actively dividing cells, with a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

at least partially enveloping said bud with a material capable of inhibiting gaseous exchange, wherein said contacting is substantially continuous over a period of from about 5 days to about 15 days.

According to another aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting at least one apically or terminally dominant bud of said plant, wherein said bud comprises actively dividing cells, with a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

at least partially enveloping said bud with a material capable of inhibiting gaseous exchange, wherein said contacting is substantially continuous over a period of from about 5 days to about 15 days; and

exposing the treated bud to substantially constant illumination until growth from the treated tissue occurs.

According to another aspect of the invention, there is provided a method of increasing ploidy in cells of a woody perennial plant, the method comprising:

contacting at least one bud of said plant with a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine, wherein said bud has been grafted onto a rootstock plant, is apically or terminally dominant and comprises actively dividing cells; and

at least partially enveloping said bud with a material capable of inhibiting gaseous exchange, wherein said contacting is substantially continuous over a period of from about 5 days to about 15 days.

Also herein disclosed is a method of generating a plant having a desired ploidy level, the method comprising:

contacting plant tissue comprising dividing cells with an effective amount of a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

generating at least one plant from tissue so contacted, and

selecting at least one plant having the desired ploidy level.

Also herein disclosed is a method of generating a plant, the method comprising:

contacting plant tissue comprising dividing cells with an effective amount of a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

selecting plant tissue of increased ploidy level,

generating at least one plant from said selected plant tissue, and
crossing said generated plant with a plant of the same or different ploidy level.

Also herein disclosed is a method of generating a plant having at least one desired trait, the method comprising:

contacting plant tissue comprising dividing cells with an effective amount of a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

selecting plant tissue of increased ploidy level,

generating at least one plant from said selected plant tissue,

crossing said generated plant with a plant of the same or different ploidy level,

and

selecting at least one progeny plant having the desired trait.

Also herein disclosed is a method of generating a plant having at least one desired trait, the method comprising:

contacting parental diploid plant tissue comprising dividing cells with an effective amount of a composition comprising about 0.5% w/v colchicine to about 3% w/v colchicine,

selecting tetraploid tissue from said treated plant tissue,

generating at least one tetraploid plant from said tetraploid tissue,

crossing said tetraploid plant with a diploid plant, and

selecting at least one progeny plant having the desired trait.

In a further aspect, the invention relates to a plant or propagative material thereof, of fruit thereof, produced by a method of the invention."